REMARKS

These remarks are submitted in order to distinguish the claimed invention set forth in the present application from the references cited by the Examiner. The courtesies extended by the Examiner to the undersigned attorney on October 8, 2003, are greatly appreciated. During that conversation the undersigned attorney and the Examiner discussed generally the references cited by the Examiner and no conclusion was reached.

In the Action dated August 12, 2003, the Examiner has rejected claims 1, 5-6, 13-15, 18-22 and 25 under 35 U.S.C. § 103(a) as being unpatentable over *Piatetsky-Shapiro*, "Discovery, Analysis, and Presentation of Strong Rules", AAAI/MT Press (1991) hereinafter referred to as "*Shapiro*" in view of *Simoudis et al.*, United States Patent No. 5,692,107. That rejection is respectfully traversed.

Claim 1, as an exemplar of the claims of the rejected group, expressly recites a method for reducing the number of attributes and respective values of a sample population employed in generating a predictive model. The method of claim 1 recites the steps of obtaining one or more desired attributes and respective values, comparing those one or more desired attributes in respective values with a sample population to obtain a target population, thereafter determining a statistical measure of difference between each of the attributes and respective values of the target population and the attributes and respective values of the sample population and then utilizing that statistical measure of difference to "reduce the number of attributes and respective values of said sample population."

The Examiner cites *Shapiro* and notes a belief that *Shapiro* teaches obtaining one or more desired attributes and respective values and thereafter comparing those one or more desired attributes and respective values with a sample population to obtain a target population, citing the KID3 Algorithm and the summary noted at page 235, lines 21-34. Applicant notes that the

summary expresses the position that a summary of all file tuples satisfying a particular condition will result; however, a determination that a particular attribute has a particular value does not, in the opinion of the Applicant, show or suggest the obtaining of a target population having "one or more desired attributes" and "respective values" as set forth within claim 1.

In paragraph 3-1 of the Examiner's Action, the Examiner notes a belief that *Shapiro* "discloses a method of reducing the number of the number of attributes and respective values of a sample population employed in generating a predictive model . . ." Applicant respectfully disagrees with the Examiner's assertion and notes that the cited section of *Shapiro* describes increasing the number of "attributes" utilized. Notably, *Shapiro* initially teaches obtaining a summary of all members of the set wherein A = a and thereafter adds the condition that B = b creating joint rule for both attributes by providing a listing of all members of the population which satisfy both rule A and B. Thus, it should be clear to the Examiner that *Shapiro* does not disclose a method for reducing the number of attributes, but rather teaches that additional attributes may be added to create rules having greater strength.

Further, the Examiner also notes that *Shapiro* "fails to expressly disclose the details of utilizing the statistical measure of difference to reduce the number of attributes and respective values of said sample population . . ." but nevertheless cites *Simoudis et al.* for an alleged teaching of that technique.

Based upon a careful consideration of the Examiner's comments, Applicant has carefully examined *Simoudis et al.* and notes that the express teaching within *Simoudis et al.* is that a target data set 108 which "typically represents a subset of a larger underlying data source 114" is "extracted by the user." *See* column 4, lines 16 and 17. Thereafter, *Simoudis et al.* describe a

data mining process which continues until the user determines that the results are satisfactory. A predictive model is then extracted based upon those results.

Consequently, Applicant urges the Examiner to consider that the Examiner's description of the teaching of *Simoudis et al.* is erroneous in that *Simoudis et al.* teach the utilization of data analysis modules to select a target data set and then repeatedly performs data mining on that data set until desired results have been achieved. *Simoudis et al.* fail to show or suggest in any way a comparison between the results of the data mining performed upon the target data set and an analysis of the underlying data source which is thereafter utilized to reduce the number of attributes and respective values which are thereafter utilized for generating a predictive model.

Simoudis et al. merely teach that various techniques such as inductive learning, conceptual clustering and data visualization (*see* column 3, lines 42-48) may be utilized to select a target data set from an underlying data source and that thereafter the user merely repeatedly utilizes data mining techniques until satisfactory results have been obtained. Both *Simoudis et al.* and *Shapiro* are entirely and notably silent on the subject of determining a statistical measure of difference between the attributes and the respective values of the target population so selected and the original sample population and thereafter utilizing that analysis to reduce the number of attributes and respective values utilized to generate a predictive model as set forth within the claims of the present application. Consequently, Applicant urges that the Examiner's rejection of these claims over the combination of *Shapiro* and *Simoudis et al.* is not well founded and it should be withdrawn.

The Examiner has also rejected claims 3-4, 16-17 and 23-24 under 35 U.S.C. § 103(a) as being unpatentable over the combined teachings of *Shapiro, Simoudis et al.* and *Dash et al*, "Dimensionality Reduction of Unsupervised Data", November 1997. That rejection is also

respectfully traversed. The Examiner cites *Dash et al.* for its alleged teaching of determining a entropy for the attribute values and then identifying those attributes having the largest difference in respective values with the target population. However, *Dash et al.* fail to disclose or suggest in any way the comparison of the statistical measure of difference between the attributes of a target population and the attributes of a sample population and thereafter utilizing that statistical measure of difference to reduce the number of attributes utilized to generate a predictive model as set forth in the present claims. Consequently, Applicant urges that this rejection is not well founded and it should be withdrawn.
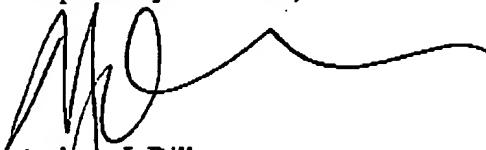
No extension of time is believed to be necessary. However, in the event an extension of time is required, that extension of time is hereby requested. Please charge any fee associated with an extension of time to **IBM Corporation Deposit Account No. 09-0447**.

Respectfully submitted,

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